

WHAT IS CLAIMED IS:

1. An isolated polynucleotide that contains a nucleotide sequence encoding at least one complementarity-determining region (CDR) or framework-determining region (FR) of an anti-idiotypic antibody that binds to human or primate anti-HIV antibodies.

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2. The polynucleotide of claim 1, wherein the anti-idiotypic antibody is monoclonal antibody 1F7 produced by hybridoma ATCC Accession No. HB 11286.

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3. The polynucleotide of claim 1, wherein said CDR is a variable heavy (VH) or variable light (VL) chain CDR of monoclonal antibody 1F7.

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4. The polynucleotide of claim 1, wherein said CDR has an amino acid sequence substantially identical to a sequence selected from the group consisting of SEQ ID NO: 11, SEQ ID NO: 15, SEQ ID NO: 19, SEQ ID NO: 28, SEQ ID NO: 32, and SEQ ID NO: 36.

5. The polynucleotide of claim 1, wherein said nucleotide sequence is selected from the group consisting of SEQ ID NO: 10, SEQ ID NO: 14, SEQ ID NO: 18, SEQ ID NO: 27, SEQ ID NO: 31, and SEQ ID NO: 35.

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6. The polynucleotide of claim 1, wherein said FR is a variable heavy (VH) or variable light (VL) chain FR of monoclonal antibody 1F7.

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7. The polynucleotide of claim 1, wherein said FR has an amino acid sequence substantially identical to a sequence selected from the group consisting of SEQ ID NO: 9, SEQ ID NO: 13, SEQ ID NO: 17, SEQ ID NO: 21, SEQ ID NO: 26, SEQ ID NO: 30, SEQ ID NO: 34, and SEQ ID NO: 38.

8. The polynucleotide of claim 1, wherein said nucleotide sequence is selected from the group consisting of SEQ ID NO: 8, SEQ ID NO: 12, SEQ ID NO: 16, SEQ ID NO: 20, SEQ ID NO: 25, SEQ ID NO: 29, SEQ ID NO: 33, and SEQ ID NO: 37.

5 9. The polynucleotide of claim 1, wherein said nucleotide sequence encodes the amino acid sequence shown in SEQ ID NO: 7 or SEQ ID NO: 24.

10. The polynucleotide of claim 1, wherein said nucleotide sequence is shown in SEQ ID NO: 5 or SEQ ID NO: 22.

10 11. The polynucleotide of claim 1, wherein said nucleotide sequence is operably linked to a human immunoglobulin constant region nucleotide sequence.

15 12. A vector comprising a promoter operably linked to a nucleotide sequence encoding at least one complementarity-determining region (CDR) or framework-determining region (FR) of monoclonal antibody 1F7.

13. The vector of claim 12, wherein said nucleotide sequence encodes a variable heavy (VH) or variable light (VL) chain of monoclonal antibody 1F7.

20 14. The vector of claim 12, wherein said nucleotide sequence is operably linked to a human immunoglobulin constant region nucleotide sequence.

15. A cell line transformed with the vector of claim 12.

25 16. A polypeptide expressed by the cell line of claim 15.

17. A composition comprising the polypeptide of claim 16 and a pharmaceutically acceptable carrier.

18. A method of modulating the immune response of a host infected with HIV

comprising administering the polypeptide of claim 16 to the host.

19. A method of modulating the immune response of a host infected with HIV

5 comprising administering the polynucleotide of claim 1 to tissues of the host.

20. A method of modulating the immune response of a host infected with HIV

comprising administering the vector of claim 12 to the host.

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